USSR

UDC 621.373.029.67:77

GINZBURG, V. M. and MESHCHANKIN, V. M., Academy of Sciences of the USSR in Moscow

"Holography in the UHF Band With an Artifically Generated Reference Wave"

Moscow, Radiotekhnika i Elektronika, Vol. 15, No. 4, April 1970, pp. 778-781

Abstract: The use of a separately generated reference wave in UHF holography, rather than directly copying the techniques used in optical holography, permits a significant improvement in the quality of the hologram. In addition, it is possible to utilize a cross multiplier apparatus rather than a quadratic detector.

The change makes it possible to record holograms in which the angle of incidence of the reference beam is relatively low, permitting the object to be considerably closer to the hologram; this leads to higher resolution in the restored image. This advantage is due to the use of the cross multiplier recording apparatus, which does not involve a diffraction grating.

The article includes a schematic of the apparatus, a mathematical derivation of the basic formula, a description of an experiment performed and photographic representations of the results. There are 6 references, 5 in English.

1/1

USSR

UDC: 621.372.852

MESHCHANOV, V. P., KIBIRSKIY, Yu. V., and KUTUZOVA, Ye. N.

"Directivity of Band Couplers With Inner Circular Conductors"

Elektron. tekhnika, Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Engineering, Scientific-Technical Collection, Control and Measurement Equipment) 1970, No. 3(21), pp 154-157 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B159)

Translation: A method is considered for improving the directivity of the coupler with ribbon lines and inner circular conductors, involving the connection of grooved line sections between standard conducting coaxial lines and the coupling region. Computations of the coupler are given. The results of the computation are confirmed by the experimental data. Three illustrations, three tables, bibliography of three. A. B.

1/1

USSR UDC: 621.372.832

MESHCHANOV, V. P., KABIRSKIY, Yu. V.

"A Method of Increasing the Front-to-Back Ratio of Waveguide Couplers With TEM-Wave"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Technology. Scientific and Technical Collection. Monitoring and Measuring Equipment), 1970, vyp. 2(20), pp 9-20 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B146)

Translation: The authors consider causes of reduction and methods of increasing the front-to-back ratio of directional couplers with TEM wave. Ten illustrations, two tables, bibliography of seventeen titles.

1/1

USSR

POLYAK, I. I., MESHCHERSKAYA, A. V., YAKOVLEVA, N. I.

"Calculation of Primary Components in a System of Random Vectors"

Tr. Gl. Geofiz. Observ. [Works of Main Geophysical Observatory], No 289, 1971, pp 11-19, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V727 by the author).

Translation: An algorithm and program (in the input language of the TA-1M transiator) are presented for reduction of random vectors to an orthogonal bases. The program is written considering the specifics of its utilization for solution of the problem of expansion of meteorological fields with respect to natural orthonormalized functions.

1/1

Acc. Nr.: AM0105455 Ref. Code: UR0000

Meshcherskaya, A. V.; Rukhovets, L. V.; Yudin, M. I.; Yakovleva, N. I.

Natural Components of Meteorological Fields (Yestestvennyye sostavlyayushchiye meteorologicheskikh poley) Leningrad, Gidrometeoizdat, 1970, 199 pp (SL:2015)

TABLE OF CONTENTS:

1/2

REEL/FRAME
19880444

Acc. Nr.: AM 0105455

In the monograph main results of a statistical analysis of meteorological elements with the aid of the methods of expansion in natural orthogonal functions are generalized.

A brief survey of modern works is given, in which the method of natural orthogonal functions was used. Much of the paper deals with the presentation of original studies of many meteorological elements with an analysis of their horizontal, vertical and temporal distribution. Discussion is given of this method as applied to a number of practical problems in meteorology and climatology, including the problems of hydrodynamical and statistical weather forecast.

As an enclosure to the monograph, one can find *The Atlas of Maps of Dispersions, Mean Values and Most Significant Natural Components of Basic Meteorological Elements.* Such an Atlas is published for the first time. It gives an idea of forms of variations in the atmosphere, their seasonal differences and other peculiarities of large-scale regularities.

The monograph and the Atlas could be used by specialists in the field of climatology, synoptical meteorology, aerology, and adjecent subjects, as well as by students who are interested in using the modern statistical methods in natural sciences.

EB

2/2

REEL/FRAME
19880445

USSR

UDC 528.521:528.085.421.1

MESHCHERSKAYA, M. V.

"Experience in Graduating the Circles of Optical Theodelites at the EOMZ Plant"

Moscow, Geodeziya i Kartografiya, No 1, 1971, pp 28-35

Abstract: Tables and graphs of graduation errors of the theodelite circles are presented. The errors consist of the cyclic errors given by Fourier series and of the random errors. The analysis shows that the mean square angular error is inversely proportional to the diameter of the circle; this is to be expected for the same linear error.

The angular errors depend also on the oscillation of the axis of the graduation machine which should not exceed 0.8" to 0.9" in order for the maximum errors not to exceed 2.0" with the mean square error below ± 0.40".

By picking out the best circles it is possible to reduce the mean square error to ± 0.25".

1/1

USSR

UDC: 621.372.852.6

MESHCHERSKIY, A. I.

"An Attachment for a Dipole Antenna"

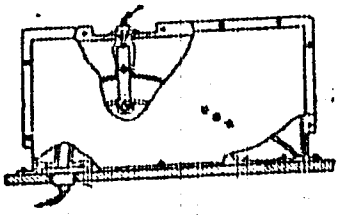
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329609, Division H, filed 24 Nov 69, published 9 Feb 72, p 211

Translation: This Author's Certificate introduces an attachment for a dipole antenna. The attachment contains a current lead-in surrounded by a shielding box with tuning element. As a distinguishing feature of the patent, the device is designed for connection to measuring equipment and for a high degree of matching. The current lead-in is made in the form of a metal clamp encompassing the antenna dipole close to its base, and the tuning element is made in the form of two metal screws fastened on opposite walls of the shield and connecting the shield to the terminal section of the dipole.

1/2

USSR

MESHCHERSKIY, A. I., USSR Author's Certificate No 329609



2/2

UDC 612.84/.88+612.825+612.825-5 : 549.92+519.95

111. USSR

SO: FOREIGN PRESS DIGEST
28 OCTOBER 1971

MESHCHERSKIY, R. M.

"Possible Neuron Mechanisms for Reducing Redundancy and Isolating a Pragmatic (Meaningful) Signal in the Relay Nuclei of the Sensory Systems"

Kiberneticheskiye Aspekty v Izuchenii Raboty Mozga (Cybernetic Aspects of the Study of the Brain's Functioning), Moscow, Nauka Publishing House, 1970, pp 188-192

Abstract: On the basis of general propositions and experimental data it is suggested that the reduction in the volume of information being transmitted from the retina to the cortex of the large hemispheres takes place in the thalamic relay nucleus. Selective extraction of the information that is the most meaningful to the organism under the given circumstances and blocking of the transmission of redundant information take place under the control of the primary projection zone of the cortex by means of a system of corticofugal connections. The blocking effect is achieved by presynaptic inhibition by the corticofugal neurons, which have axon-to-axon contacts with the terminals of the visual fibers. The inhibiting effects are transmitted by the corticofugal neurons, which form axon-somatic contacts with the intermediate (inhibiting) or projection neurons of the lateral geniculate body. It is assumed that the action of the first two types ensures the reduction of redundant information. Thanks to the action of the third type, the pragmatic signal can be extracted. A diagram of the possible pathways of activation of the corticofugal system of

USSR

MESHCHERSKIY, R. M., Kiberneticheskiye Aspekty v Izuchenii Raboty Mozga, 1970, pp 188-192

connections with different regions of the cerebral cortex and subcortical nuclei is presented. The corticofugal actions may be viewed as the results of the integrated activity of the brain, which is capable of selecting information on the basis of its meaning, taking into account the given situation and the past experience of the organism. In this manner, the corticofugal system of connections is one of the mechanisms which bring about afferent synthesis.

USSR

UDC 612.13

BARAZ, L. A., VESELOVA, YE. S., MESECHERSKIY, YE. L., and KHAYUTIN, V. M., Laboratory of Circulatory Control and Biophysics, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Blood Flow Through Forearm Muscles in Man After Static Exercises of Increasing Load"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 2, 1973, pp 307-314

Abstract: Plethysmographic investigations revealed that during performance of work on a wrist ergometer, changes in the blood flow through the forearm muscles proceed in two stages. With work load increasing up to 20% of the maximum possible voluntary effort, the peak blood flow during the contraction increases considerably, the reactive hyperemia following relaxation is of brief duration, and thus the total additional blood flow during recovery is very small. With work load increasing up to 50% of the maximum possible, the peak blood flow increases at a considerably reduced rate, the reactive hyperemia becomes protracted, and the additional blood flow during recovery reaches high proportions of the total. Thus, the work load of 20% of the maximum possible appears to mark the critical point below which blood flow is adequate and above which blood

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USSR

BARAZ, L. A., et al., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 2, 1973, pp 307-314

supply becomes inadequate, and the accumulating metabolites (representing a "blood debt") significantly reduce the vasotonus and thus increase the diameter of the blood vessels and the total capacity of the vascular bed in the working area.

2/2

UNCLASSIFIED PROCESSING DATE--16OCT70

1/2 031

TITLE--WIDE BAND REFLECTORS BASED ON MULTILAYER DIELECTRIC COATINGS -U-

AUTHOR-(04)-KOROLEV, F.A., KLEMENTEVA, A.YU., MESHCHERYAKA, I.F.,
RAMAZINA, I.A.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(4), 775-80

DATE PUBLISHED--------70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.

TOPIC TAGS--DIELECTRIC COATING, LIGHT REFLECTION, WIDEBAND TRANSMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0954 STEP NO--UR/0051/70/028/004/0775/0780

CIRC ACCESSION NO--AP0121556
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 031
CIRC ACCESSION NO--AP0121556
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE METHODS OF PREPN. OF VARIOUS WIDEBAND REFLECTORS AS WELL AS EXPTL. RESULTS IN THE VISIBLE AND UV SPECTRAL REGIONS ARE GIVEN.

UNCLASSIFIED

USSR

UDC: 518.5:681.3.06

SERGEYEV, N. P., RUDENKO, M. N., MESHCHERYAKOV, B. K.

"On the Problem of Modeling One Inverse Boundary Value Problem"

Uch. zap. Penz. politekhn. in-t (Scientific Notes of the Penza Polytechnical Institute), 1970, vyp. 3, pp 29-34 (from REh-Kibernetika, No 7, Jul 71, Abstract No 7V756)

[No abstract]

1/1

UNCLASSIFIED

1/2 010 PROCESSING DATE--02OCT70

TITLE--HORIZONTAL INHOMOGENEITIES IN EARTH'S INTERIOR -U-

AUTHOR--MESHCHERYAKOV, G.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO 3, 1970, PP 37-43

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--LINEAR EQUATION, EARTH PLANET, MODEL, EARTH CRUST DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1046 STEP NO--UR/0387/70/000/003/0037/0043

CIRC ACCESSION NO--AP0112179

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--02OCT70

2/2 010

CIRC ACCESSION NO--AP0112179

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF COMPUTING THE MEAN DENSITIES OF MATTER WITHIN THE EARTH FOR CONES WITH VERTICES AT THE CENTER OF MASS OF THE PLANET AND WITH SPHERICAL BASES OF EXTERNAL GRAVITY POTENTIAL IS DEMONSTRATED. A SYSTEM OF LINEAR EQUATIONS IS WRITTEN FOR SOLVING THIS PROBLEM. A NUMERICAL EXAMPLE IS GIVEN WHICH ALLOWS AN APPROXIMATE EVALUATION OF THE STUDIED PHENOMENON AND WHICH CLEARLY DEMONSTRATES THAT WITHIN THE EARTH THERE ARE QUITE LARGE LATITUDINAL LONGITUDINAL INHOMOGENEITIES. THE VALUES OF THE MEAN DENSITIES OF THESE CONES WAS IN THE RANGE 5.36-5.83. THIS MAKES VERY DIFFICULT ACCEPTANCE OF A MODEL OF A SPHERICALLY LAYERED EARTH AND EMPHASIZES THE IMPORTANCE OF FORMULATING A MORE PERFECT MODEL. THE FOLLOWING FACTORS MUST BE TAKEN INTO ACCOUNT IN A MORE RIGOROUS DETERMINATION OF LATITUDINAL LONGITUDINAL INHOMOGENEITIES IN THE EARTH. IT IS NECESSARY TO USE MORE RELIABLE VALUES OF THE STOKES CONSTANTS, OBTAINED DURING RECENT YEARS FROM BOTH GRAVIMETRIC AND SATELLITE OBSERVATIONS. THE COEFFICIENTS OF THE EQUATIONS MUST BE COMPUTED BY DIRECT INTEGRATION FOR THE BASES OF THE PYRAMIDS OR NUMERICALLY BY BREAKING DOWN THE SURFACE OF THE SPHERE INTO TRAPEZIA MEASURING NO MORE THAN 2DEGREES TIMES 2DEGREES. THE EARTH'S BODY MUST BE BROKEN DOWN INTO A GREATER NUMBER (36-49) OF PYRAMIDS (WITH BASES OF APPROXIMATELY IDENTICAL AREA) AND WITH THE USE OF FIFTH AND SIXTH ORDER STOKES CONSTANTS. FACILITY: NOVOSIBIRSK INSTITUTE OF GEODETIC, AERIAL MAPPING AND CARTOGRAPHIC ENGINEERS.

UNCLASSIFIED

USSR UDC 669.28.049-66:669.784

PAVLOV, YU. A., MESHCHERYAKOV, G. YA, and SHEBOLDAYEV, S. B., Moscow Institute of Steel and Alloys

"Interaction of Molybdenum Trioxide With Graphite"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, No 1, 1972, pp 13-14

Abstract: The object of this study was the effect of the distance between molybdenum trioxide and graphite specimens, the direction and flow rate of inert gas current on the oxide's sublimation rate. The experiment involved specimens of analytically pure molybdenum trioxide, and MG-grade graphite, a quartz reaction vessel, and a resistance tube furnace. The testing temperatures were 400, 500, and 600°C and the reaction time -- 1/2 hr. It is shown that graphite, while adsorbing molybdenum trioxide vapors, reduces their partial pressure on the oxide and promotes sublimation. As the distance between the oxide and graphite specimens is increased, the sublimation rate decreases due to the drop in the concentration gradient of MoO_3 vapors from the oxide to the graphite. Here the concentration gradient acts as the motive force for the diffusion of oxide vapors. A decrease in the distance

USSR

PAVLOV, YU. A., et al, Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, No 1, 1972, pp 13-14

between the specimens raises this gradient, facilitating the offtake of vaporized molybdenum trioxide from the specimens, thereby promoting the sublimation rate. Increasing the inert gas flow rate promotes the graphite effect, facilitating vapor offtake and promoting sublimation. (2 illustrations, 2 bibliographic references).

UNCLASSIFIED PROCESSING DATE--23OCT70

1/2 034

TITLE--PHYSICOCHEMICAL FEATURES OF THE REACTION OF MOLYBDENUM TRIOXIDE AND TUNGSTEN TRIOXIDE WITH GRAPHITE -U-

AUTHOR-(05)-YELYUTIN, V.P., PAVLOV, YU.A., SHEBOLAOEV, S.B., POLYAKOV, V.P., MESHCHERYAKOV, G.YA.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 73-5

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--TUNGSTEN COMPOUND, METAL OXIDE, GRAPHITE, CHEMICAL REACTION, MOLYBDENUM OXIDE, THERMAL DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0020/70/191/001/0073/0075

PROXY REEL/FRAME--1997/1085

CIRC ACCESSION NO--AT0119944

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 034

CIRC ACCESSION NO--AT0119944

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOO SU33 AND MO SUB3 WERE HEATED UNDER VACUUM AT VARIOUS TEMPS. WITH GRAPHITE. A REACTION OCCURRED ON THE SURFACE OF THE GRAPHITE GIVING OXIDE LAYERS CONTG. MO SUB2 O SUB3 AND MO SUB4 O SUB11 (410-640DEGREES) AND W SUB18 O SUB49, W SUB20 O SU858, AND W (750-1050DEGREES). THE COMPN. OF THE OXIDE LAYERS AND THE DISTRIBUTION OF W AND MO ON THE GRAPHITE SURFACE WERE DETD. THE THICKNESS OF THE OXIDE LAYERS WAS DETD. AT VARIOUS TEMPS. AND REACTION TIMES (1-12 HR). AT LOWER TEMP. THE FILMS WERE VERY THIN. AT 440DEGREES AND 510DEGREES, MOO SUB3 VAPORS WERE REDUCED TO MO SUB2 O SU33. AT 640DEGREES THE RATE OF EVAPN. OF MOO SUB3 AND THE NO. OF PARTICLES ON THE GRAPHITE SHARPLY INCREASED. THE FORMATION OF A LAYER OF MO SUB2 O SUB3 HAMPERED FURTHER REDN. OF MOO SUB3 AND LED TO THE FORMATION OF MO SUB4 O SUB11, PROBABLY BY REACTION OF MO SUB2 O SUB3 WITH CO FORMED IN THE REACTION. AT HIGH TEMP. (1050DEGREES) MO SUB2 O SUB3 REACTED WITH GRAPHITE TO GIVE MOC. THE REACTION OF MO SUB3 WITH GRAPHITE GAVE A NONHOMOGENEOUS OXIDE LAYER CONTG. W METAL. AT 900-1050DEGREES A HEAVY LAYER OF W SUB20 O SUB58 FORMED. DIFFUSION PROCESSES PLAY AN IMPORTANT PART IN THESE REACTIONS. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

1/2 037 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MECHANISM OF THE REACTION OF MOLYBDENUM TRIOXIDE AND TUNGSTEN TRIOXIDE WITH CARBON -U-

AUTHOR-(04)-PAVLOV, YU.A., SHEBOLDAYEV, S.B., MESHCHERYAKOV, G.YA., POLYAKOV, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 26-30

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CHEMICAL REACTION MECHANISM, GRAPHITE, TUNGSTEN TRIOXIDE, MOLYBDENUM OXIDE, ELECTRON DIFFRACTION, PHASE COMPOSITION, METAL REDUCTION, OXIDE FILM, CARBON MONOXIDE, PHYSICAL DIFFUSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0807 STEP NO--UR/0148/70/013/004/0026/0030

CIRC ACCESSION NO--AT0132903

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 037

CIRC ACCESSION NO--AT0132903

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTERACTION WAS STUDIED OF METALS WITH GRAPHITE UNDER THE CONDITIONS WHEN THE OXIDE IS BROUGHT IN CONTACT WITH THE REACTION SURFACE ONLY BY THE TRANSFER OF ITS VAPOR PHASE PARTICLES. THE OXIDE PELLETS (45 MM DIAM. AND 10 MM LENGTH) WERE PREPD. BY PRESSING WO SUB3 AND MOO SUB3 POWDERS; THESE WERE FURTHER CALCINED IN AN O STREAM FOR THE PURPOSE OF HOMOGENIZING THE COMPN. TABLETS MADE OF GRAPHITE AG 1500 WERE USED AS THE CARBONACEOUS REDUCER. FOR MOO SUB3, THE TEMP. RANGE INVESTIGATED WAS 380-750DEGREES, FOR WO SUB3 IT WAS 800-1050DEGREES. ELECTRON DIFFRACTION ANALY. SHOWED THAT THE DEPOSITED LAYER IS INDEED MOO SUB3. AT THE TESTING TEMP. OF 640DEGREES, THE FOLLOWING 2 PAHSES FORM: MO SUB2 O SUB3 AND MO SUB4 O SUB11, WITH THE LAYER BOUNDING GRAPHITE CONSISTING ENTIRELY OF THE MO SUB2 O SUB3 PHASE. THE RESULTS INDICATE A REDN. MECHANISM, WITH COUNTER DIFFUSION OF THE O OF THE OXIDE AND THE C TAKING PLACE THROUGH THE LAYER OF THE REACTION PRODUCTS. SINCE MO SUB2 O SUB3 DOES NOT INTERACT WITH C UP TO 750DEGREES, THE SUBSEQUENT REDN. OF MOO SUB3 CAN BE BROUGHT ABOUT BY THE DIFFUSION OF C THROUGH THE MO SUB2 O SUB3 FILM. O OF THE OXIDE CAN ALSO DIFFUSE TO THE CONTACT SURFACE BETWEEN THE OXIDE PHASE AND THE GRAPHITE UNDER THE ACTION OF THE EMERGING CONCN. GRADIENT. THE REDN. PROCESS IS ACCOMPAINED BY AN INCREASE IN THE THICKNESS OF THE REACTION PRODUCT LAYER. IN CASE OF THE REDN. OF WO SUB3, THE INFLUENCE MUST BE CONSIDERED OF CO WHICH FORMS BY THE REGENERATION REACTION, WHICH AT TEMPS. IN EXCESS OF 800DEGREES GOES ON AT A RAPID RATE. FACILITY: MOSK. INST. STALI SPLAVOV, MOSCOW, USSR.

UNCLASSIFIED

USSR

MESHCHERYAKOV, M. G.; et al (Joint Institute for Nuclear Research)

"Polarization of Secondary Protons in the Reactions $pp \rightarrow n^+pn$ and $pp \rightarrow n^\circ pp$ at 669 MEV"

Moscow, Yadernaya Fizika; March, 1971; pp 581-7

ABSTRACT: Polarization of secondary protons emitted with the energy ~ 370 Mev in the reactions $pp \rightarrow n^+pn$ and $pp \rightarrow n^\circ pp$ was measured at angles of 8.3°, 14.5°, and 18.0° at the incident proton energy of 669 Mev. Along the direction of a normal to the plane containing the momentum vectors of incident and registered protons the polarization values were found to be: $P(8.3^\circ) = 0.20 \pm 0.05$, $P(14.5^\circ) = 0.21 \pm 0.05$, and $P(18.0^\circ) = 0.15 \pm 0.05$. The results obtained can be described by the one-pion exchange model, which takes into account the one-pion form factor of nucleons and the singularity of the behavior of the amplitude of the S_{11} state of the πN system outside of the mass surface.

1/1

UNCLASSIFIED PROCESSING DATE--27NOV70

1/2 016

TITLE--FORMATION OF MOLECULAR BEAMS OF HYDROGEN AND OXYGEN IN MULTICHANNEL SYSTEMS -U-

AUTHOR--MESHCHERYAKOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--PRIB. TEKH. EKSP. 1970, 1, 170-2

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MOLECULAR BEAM, HYDROGEN, OXYGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0120/70/001/000/0170/0172

PROXY REEL/FRAME--1996/1864

CIRC ACCESSION NO--AP0118828

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 016

CIRC ACCESSION NO--AP0118828

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT WAS STUDIED ON THE FORM OF THE CHANNEL CAVITY ON THE CHANGE IN D. AND INTENSITY OF MOL. BEAMS OF H AND D IN MULTICHANNEL SYSTEMS WITH ROUND OR SLOTTED CHANNELS. THE ELLIPSOID FORM OF THE CAVITY OF A MULTICHANNEL SYSTEM WITH A 1:2 RATIO OF ELLIPSOID SYMMETRY AXES PROVED TO BE THE BEST IN THE FORMATION OF MOL. BEAMS OF H AND N WITH PROPERTIES HAVING A SMALL SCATTER OF KINETIC GAS PARAMETERS CAUSED BY THE HIGH D. AND THE INTENSITY OF BEAMS.

FACILITY: INST. MAT., NOVOSIBIRSK, USSR.

UNCLASSIFIED

UDC 669.3'721.018.9

USSR

MESHCHERYAKOV, S. I.

"Melting and Casting of Ingots of Copper-Magnesium Alloys"

Tr. N.-i. i Proekt. In-ta Splavov i Obrabotki Tsvet. Met. [Works of Scientific Research and Planning Institute for Alloys and Processing of Nonferrous Metals], No 35, 1971, pp 25-33, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G378 by the author).

Translation: Practical recommendations are presented for melting and casting of Cu-Mg alloys in series large-scale production. 2 Figures; 1 Table; 5 Biblio. Refs.

1/1

UDC 669.71.005

USSR

MESHCHERYAKOV, S. M.

"Power Economy in Aluminum Production"

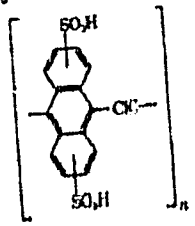
Sb. materialov Vses. seminara energetikov predpriyatiy tsvetn. metallurgii po ekon. elektroenergii (All-Union Seminar of Electrical Engineers of the Enterprises of Non-Ferrous Metallurgy on the Question of Economizing on Electrical Power -- collection of transactions), Moscow, 1970, pp 52-58 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G94)

Translation: Measures are cited which are designed to reduce power consumption at the Krasnoyarsk Aluminum Plant. These measures, which are still under development include the following: improvement of the design of electrolytic reduction cells for 150 ka current, the addition of different salts to the electrolyte, the reduction of the number of anode effects, the reduction of voltage loss in the electrolytic reduction cell circuit, the improvement of the design of silicon current rectifiers, reuse of cooling water, the increase of the number of anode pins, etc.

1/1

Acc. Nr: AP0052503 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: M 4/P04160

101323z Synthesis and properties of new aromatic polymers. Paushkin, Ya. M.; Komissarov, V. I.; Lunin, A. F.; Alexsandrova, L. A.; Oganesov, S. S.; Meshcheryakov, S. V.; Smirnov, V. N. (Inst. Neftekhim. Gazov. Prom. Im. Gubkina, Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 53-6 (Russ). The heteropolycondensation of Na_2C_2 with o-, m-, and p-$C_6H_4Cl_2$ and $C_6H_4Br_2$, 1,4-$C_{10}H_6Br_2$ and 1,5-$C_{10}H_6Br_2$, and 9,10-dibromoanthracene in $C_{16}H_{34}$ was studied under Ar at 200-87°. The most reactive monomers were the o-dibromo derivs. The polymers were brown to black powders stable at up to 300-400°, having an elec. cond. in the range of 10^{-7}-10^{-12} (ohm cm)$^{-1}$. The polymers were readily nitrated, sulfonated, and aminated; e.g.,



(I)

sulfonation with fuming H_2SO_4 gave heat resistant (to 300°) cat. ion exchange resins I of high exchange capacity. CKJH

REEL/FRAME

19821144

UNCLASSIFIED PROCESSING DATE--13NOV70

1/2 007

TITLE--METHOD OF LOCAL CONSTRUCTION OF INVARIANT SUBSPACES IN THE SPACE OF SOLUTIONS OF THE CHEN, LOW TYPE EQUATIONS -U-

AUTHOR-(02)-MESHCHERYAKOV, V.A., RERIKH, K.V.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 1, PP 78-93

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UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 007

CIRC ACCESSION NO--AP0130047

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NONLINEAR SYSTEM OF FUNCTIONAL EQUATIONS FOR THE MATRIX ELEMENTS OF THE S MATRIX IS FORMULATED ON THE BASIS OF THE CHEW LOW EQUATIONS. THE LINEARIZATION OF THE UNITARITY CONDITIONS AND THE TRANSITION TO PROJECTIVE COORDINATES IN THE SPACE OF THE S MATRIX ELEMENTS ARE PERFORMED. USING THE GEOMETRICAL INTERPRETATION OF THE SYSTEM OF FUNCTIONAL EQUATIONS AS A TRANSFORMATION IN THE (N-1) DIMENSIONAL REAL SPACE IT IS SHOWN THAT SOME OF THE SOLUTIONS OF THE INITIAL SYSTEM OF EQUATIONS ARE CONTAINED ON THE INVARIANT HYPERSURFACES OF THIS SPACE. A METHOD OF THE LOCAL CONSTRUCTION OF THE INVARIANT SUBSPACES IS PROPOSED, WHICH IS APPLIED TO THE CHEW LOW EQUATIONS WITH THE 3 TIMES 3 AND 4 TIMES 4 CROSSING MATRICES. IT IS ESTABLISHED THAT IF THE CHEW LOW EQUATIONS POSSESS A SOLUTION, THEN THE ARBITRARINESS OF THE SOLUTIONS OF THE CLASS UNDER CONSIDERATION, BEING THE GENERALIZATION OF THE FAMILAR BETA ARBITRARINESS, IS NOT EXHAUSTIVE. FACILITY: OB"YEDINENNYY INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

USSR

UDC:621.793:661.862.2:533.9.666.763

BUDNIK, N. M., LYAKH, Yu. A., MESHCHERYAKOV, V. M., BOGATIKOV, Ye. N., TROITSKIY, V. K.

"Plasma Application of a Protective Coating of Aluminum Oxide on Refractory Materials"

Moscow, Svarochnoye Proizvodstvo, No 12, Dec 73, pp 16-17

Abstract: The Department of Welding of Rostov-na-Donu Institute of Agricultural Machine Building has designed and manufactured an experimental 17 kw plasma installation for application of protective aluminum oxide coatings to refractory materials. The new design increases the operating life of the anode nozzle to 20 hours. The influence of atomizing mode parameters on properties of the coatings produced is studied. A technology is developed for application of aluminum oxide to chamotte materials. Application of protective aluminum oxide coatings to the lining of steel teeming ladles by plasma atomization increases lining life by a factor of 2.

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UDC 669.14:621.74.428

USSR

BUDNIK, N. M., LYAKH, Yu. A., MESHCHERYAKOV, V. M., TROITSKIY, V. A., BOGATIKOV, Ye. N., URINSON, A. I., and KHOKHLOV, V. M., Taganrog Metallurgical Plant; Rostov-on-Don Institute of Agricultural Machinery

"Increasing the Resistance of the Lining of Steel-Teeming Ladles"

Moscow, Metallurg, No 8, Aug 70, pp 31-33

Abstract: The resistance of the lining of steel-teeming ladles may be increased by heat-resistant protective coatings applied by the plasma method. The powder to be sprayed passes through a high-temperature zone (10,000-20,000°C) and strikes the surface in a plastic state. The powder particles, possessing high kinetic energy, sinter and form a homogeneous high-quality dense coating of adequate thickness. In most cases it is necessary to heat the surface. Aluminum oxide with a particle size of 80-100 microns was used as the protective coating. The [illegible] of the plasma spraying of Al_2O_3 on [illegible] brick is described and the technological parameters were determined. Maximum cohesive strength with the brick was obtained at a 0.4-0.6 mm coating thickness. The aluminum oxide coating applied by the plasma method appears to be double the lining's resistance of steel-teeming ladles under service conditions. The yearly savings per 50-ton ladle at the Taganrog Metallurgical Plant amount to 2,650 rubles.

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UDC 621.791.011

USSR

GORSHKOV, A. I., MATYUSHKIN, B. A., MESHCHERYAKOV, V. N., and SHORSHOROV, M. Kh., Moscow

"Effect of Hydrogen on the Kinetics of Cold Crack Growth in Titanium After Welding"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 72, pp 140-143

Abstract: OT4, OT4-2, VT14 and VT20 titanium alloys in the form of disks 130 mm in diameter and 3 mm thick, were welded and tested to trace the development of cracks under a biaxial stress state and the effect of hydrogen on cold cracking. Test data showed that at high rates of crack development the hydrogen content at the crack surface is lowered. This indicates that the higher the level of stresses and the lower the ductility of the titanium alloys, the smaller the hydrogen concentration required for crack development. The effect of oxygen and nitrogen on cold crack development was also investigated which showed that with increased content of these two elements the rate of crack growth also increases. 3 figures, 1 table, 6 bibliographic references.

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UDC 539.4:621.791

USSR

SHORSHOROV, M. Kh., MATYUSHKIN, B. A., MESHCHERYAKOV, V. N., and GORSHKOV, A. I.
Moscow

"On the Role of Hydrogen in the Mechanism of Retarded Disintegration of Titanium After Welding"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 71, pp 115-120

Abstract: Data are presented from an investigation of the role of hydrogen in the mechanism of the development of cold cracks in welded joints of titanium by retarded disintegration. Experiments were carried out with specimens, 2 X 20 X 80 mm, of the OT4 titanium alloy which, after preliminary lateral bending at angles of 15-90 deg., were subjected to hydrogenation. The relationship between the time up to the destruction of the specimen and the hydrogen concentration on the head of the crack was established experimentally and through calculation. The investigation results are discussed by reference to diagrams showing the effect of the bending angle of the specimen on the H-content of the metal, the H-content on the crack head and the crack length depending on its development time up to disintegration, and the crack length as a function of stress. The retarded disintegration mechanism is essentially affected by the

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SHORSHOROV, M. Kh., et al., Fizika i Khimiya Obrabotki Materialov, No 5, Sep-Oct 71, pp 115-120

hydrogen diffusion caused by the stress gradient. Hydrogen diffuses into the region of maximum stress concentrations and absorbs on defects of the crystalline lattice of the metal, decreasing the surface energy and increasing the development rate of cracks. Six illustr., four formulas, one table, nine biblio. refs.

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USSR

UDC 621.791.011

ABRAMOV, V. V., BYCHKOVA, Z. S., [redacted]ESHCHERYAKOV, V. N., and SHORSHOROV, M. KH., Moscow

"Kinetics of Surface Chemistry of the Localized Chemical Reaction Between Copper and Nickel in the Solid Phase During Welding"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 4, Jul/Aug 72, pp 96-101

Abstract: Fractographic analyses of the surfaces of reactions between copper and nickel in solids subjected to heat and pressure have shown that, in metals having very different resistances to plastic deformation, there is an increase in the bonding strength due to the deformation of microdendrites. The kinetics of the increase in the bonding strength closely follow the kinetic plastic deformation of the microdendrites of nickel. The relative size of the increase in strength may be approximated from the amount of deformation of the microdendrites or of the contact surfaces of the microdendrites on the welding surfaces of nickel.

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1/2 024 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EFFECT OF MODIFYING UREA OLIGOMERS ON THE PROPERTIES OF GLASS FIBER REINFORCED PLASTICS -U-

AUTHOR-(05)-KRIVONOSOV, A.I., AKUTIN, M.S., KERBER, M.L., MESHCHERYAKOV, YU.YA., PUKHOVITSKAYA, A.N.

COUNTRY OF INFO--USSR

SOURCE--PLAST. MASSY 1970, (3), 46-7

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--UREA, OLIGOMER, GLASS FIBER, REINFORCED PLASTIC, POLYVINYL ACETATE/(U)UKS UREA OLIGOMER

CONTROL MARKING--NO RESTRICTIONS

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PROXY REEL/FRAME--1997/0578 STEP NO--UR/0191/70/000/003/0046/0047

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UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 024

CIRC ACCESSION NO--AP0119496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MODIFICATION OF A UREA OLIGOMER UKS (I) WITH 3-5PERCENT AGM-9, ES, AND POLY(VINYL ACETATE) EMULSION INCREASED THE WETTABILITY OF GLASS FIBERS WITH I AND IMPROVED PHYSICOMECH. PROPERTIES OF GLASS FIBER REINFORCED PLASTICS.

UNCLASSIFIED

UDC 620.193.41

USSR

MESHCHERYAKOVA, I. D., KASHCHEYEVA, T. P., and RUTKOVSKIY, M.L.

"Behavior of Titanium in Ethanol-Aqueous Solutions of Hydrogen Chloride"

Moscow, Zashchita Metallov, Vol 6, No 3, May-Jun 70, pp 286-289

Abstract: An investigation was made of the corrosion and electrochemical behavior of VT-1 titanium in ethanol solutions of HCl containing various amounts of water in order to determine the possibility of using titanium as a structural material for production facilities where the basic aggressive medium is ethanol-aqueous solutions of HCl. The experiments were performed at room temperature in a 20% ethanol solution of HCl without water and with 2-80% water. It was found that titanium is not passivated in a water-free 20% ethanol solution of HCl and that it corrodes by the electrochemical mechanism at a rate of ~5 mm/year. In solutions containing 4-6% water, titanium has a tendency toward pitting. A linear relation was observed between the activation potential and the logarithm of the water concentration. Titanium can be used as a structural material in 20% ethanol solutions of HCl containing 9-32% water. In this case the corrosion rate of the titanium does not exceed 0.01 mm/year. The mechanism of the inhibitor effect is discussed briefly.

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DOBROKHOTOV, B. P., MESHCHERYAKOVA, I. S., DOLOTOVA, L. A., POMANSKAYA, L. A., ARSEN'YEV, V. P., LEVACHEVA, Z. A., PANINA, T. V., KATELINA, A. F. and MYASNIKOV, Yu. A., Institute of Epidemiology, and Microbiology imeni Gamaleya, Academy of Medical Sciences, and Tul'skaya Oblast Sanitary-Epidemiological Station

"Application of a New Method of Detecting Tularemia Epizootics Under Practical Conditions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

The timely detection, study, and prognostication of tularemia epizootics occupy an important place in the work of divisions of especially dangerous infections of sanitary-epidemiological stations inasmuch as this makes it possible to plan and carry out prophylactic measures against this infection properly. However, methods employed at the present time for detecting epizootics in nature are extremely labor-consuming and require a great deal of time both for the collection of field material and for its laboratory examination. It is practically impossible to survey each year the entire territory serviced by the station; therefore it is expedient to conduct a detailed study of circumstances in localities only after an approximate determination of the

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

probability of the presence of tularemia epizootics in any of their parts. For this preliminary estimate it was suggested that pellets of birds of prey be examined for the presence of the tularemia microbe antigen [1]. Results of the practical application of this method under the conditions of Tul'skaya Oblast are presented in this report.

On the given territory, located in the Central Russian highlands, foci of tularemia of the meadow-field type [2] are widely distributed, the principal carrier being the ordinary field mouse and the long-time preserver of the causative agent, the tick D. pictus. In spite of substantial changes which have taken place in the method of conducting agriculture, these foci continue to exist; although as a result of the mass vaccination of the population, instances of disease among the people are extremely rare [3].

During 1968 to 1971 regular organized zoologic-parasitological work was carried out in the Oblast. A total of 25,832 traps were set up in the fields by workers in the Division of Especially Dangerous Infections during the time indicated; 497 cubic meters of straw were displaced; 84 hectares of the control areas were dug up and as a result 2,199 ordinary field mice were caught.

In the autumn of 1968 a large number of ordinary field mice were observed in the southern rayons of the Oblast: more than 500 per hectare; and in the

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

north up to 1000-1500 in some places. This led to a concentration of small animals in the stacks (19 to 25% falling into the traps) and to the occurrence among them of tularemia epizootics. In December of 1968 and in January 1969 15 strains of the causative agent were isolated in Kurkinskiy and Shchekinskiy rayons of the Oblast: 5 from the carcasses of the field mice and 10 from the excrement. In the course of the entire year 1969 the number of field mice was low and the next increase was not registered until in the autumn of 1970: on isolated fields (clover) up to 2000, and in Shchekinskiy and Odoyevskiy rayons, up to 5000 per hectare. In 1971 the number of ordinary field mice in the entire Oblast was extremely low. During these years negative results were obtained in bacteriological investigations of small animals; only one culture of the tularemia microbe was isolated in June 1970 from the ticks D. pictus collected from cows in Suvorovskiy Rayon. Thus from 1968 to 1971 during an intensive inspection of the Oblast, the presence of tularemia was established by a bacteriological method in only three rayons -- Kurkinskiy, Shchekinskiy, and Suvorovskiy.

During 1969 to 1971, 1490 pellets of birds of prey were collected and examined in the Oblast. Their collection took place primarily in the spring

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

(April - May) at the time of three-to-four-day field trips by automobile; a certain number was collected incidentally while other zoological work was being carried out. The pellets were most frequently found near poles of electro-transmission and communications lines, on stacks, and near other structures on the landscape. During the entire time in the collection of pellets approximately 30 man-days were used which comprised an extremely insignificant part of the time expended by the division for inspecting the Oblast. Unfortunately in some of the 18 rayons covered by the collection, an insufficient number of pellets were found, which did not permit the positive determination of an epizootic condition of the rodent population in their territory (See Drawing). The number of pellets collected at any point was directly dependent on the number of ordinary field mice in a given locality: under an increased concentration of these rodents more birds of prey were observed and it was possible to find more pellets.

In the spring collections pellets (which had been preserved since autumn) of ordinary and rough-legged buzzards that winter in the territory predominated (more than 90%). A large portion of the pellets of the lesser falcons had disintegrated by this time. In 88 to 96% of the pellets the remains of ordinary

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

field mice were encountered; those of other kinds of mammals (mice of plowed land, field mice, grey hamsters, gophers, weasels, shrews) and birds were rarely encountered. During a selective examination in 1969, the remains of 128 small animals were detected in 85 pellets; in 1970, in 232 pellets, the remains of 356 small animals; and in 1971, the remains of 200 small animals in 140 pellets, giving an average of 1.5 small animal per pellet.

In this manner the 1490 pellets collected contained more small animals than those obtained in the fields during these years for investigation by all other methods. One should also keep in view that by consuming in nature primarily the weakened animals or their carcasses, birds of prey ensure the selection out of the animal population of precisely those individuals which are desirable for bacteriological investigation.

The presence of an antigen in the pellets positively confirmed the fact of an epizootic condition while through an analysis of the bone remains it was possible to determine the kinds of mammals involved in the epizootic process.

For the purpose of detecting the antigen the antibody neutralization reaction was employed. The material was prepared and the reaction carried out by the method described earlier [1].

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

The antigen of the tularemia microbe was detected in 173 pellets collected in the territory of 11 rayons of the Oblast. Only those results were considered positive in which there was a sharp delay in heragglutination which was observed in titrations (from the initial dry weight of the pellet); 1:10 - 1:20 in 73 cases; 1:40 - 1:80 in 67 cases; 1:160 - 1:320 in 23 cases; 1:640 - 1:1280 in 12 cases (See Table).

The number of sites where pellets were found containing an antigen was significantly greater than the number of sites where cultures were formed -- 21 against 4. This made it possible to establish with far greater precision the boundaries of epizootics that had transpired, and it testified to the fact that an epizootic situation with respect to tularemia still exists in a significant part of the territory of Tul'skaya Oblast. Moreover, the presence of epizootics was successfully established for the years having a smaller number of ordinary field mice where it is impossible to detect the causative agent of tularemia by the usually applied methods.

In such torpid epizootics the tularemia microbe antigen is detected only in 1 to 1.5% of the pellets. Cultures of the tularemia microbe from rodents can be isolated only at the time of sufficiently intensive epizootics, and in

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

such places more than 20% of the collected pellets contained the tularemia microbe antigen.

In this way, results of an examination of pellets (by the antibody neutralization reaction) collected in early spring in meadow-field foci of tularemia can serve as a precise indication of the existence during the past winter of epizootic tularemia in the territory being surveyed and its magnitude. The revelation of this fact is extremely important in determining the enzootic-ity of the territory for the purpose of conducting prophylactic measures, the first and foremost being systematic vaccinations. Necessarily in a suspect territory a more thorough collection of material must be achieved for the purpose of isolating the causative agent of tularemia by ordinary bacteriological methods.

Conclusions

1. Examination of pellets of birds of prey collected in springtime in meadow-field foci of tularemia for the presence of the tularemia microbe antigen makes it possible quickly and with a small expenditure of work to establish the past winter's epizootics of this infection and their intensity over extensive areas.

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

2. In the course of the years 1969 to 1971, tularemia enzooticity was established by the indicated method in 11 rayons of Tul'skaya Oblast; whereas by the bacteriological method the causative agent was detected in only 3 rayons.

3. With a sufficient amount of research material (100 to 200 pellets from each point) it will be possible to successfully detect each year even torpid tularemia epizootics, given a reduced number of ordinary field mice per focus.

4. The suggested method is completely suitable for use in work of divisions of especially dangerous infections of sanitary-epidemiological stations.

BIBLIOGRAPHY

1. Dobrokhotov, B. P., Meshcheryakova, I. S., Zh. Mikrobiol. [Journal of Microgiology], 1969, No 12, p 38.
2. Myasnikov, Yu. A., Prirodnyye Ochagi Tulyaremii Srednerusskoy Vozvyshennosti, ikh Epidemiologicheskiye Osobennosti i Profilaktika [Natural Tularemia Sites of Central Russian Highlands, Their Epidemiological Features and Prophylactics], Thesis for Doctor of M., 1963.
4. Olsuf'yev, N. G., Dobrokhotov, B. P. et al., Zh. Mikrobiol., 1971, No 6, p 117.

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

NUMBER OF PELLETS BY YEAR

RAYON	1969 Total	1969 With Antigen	1970 Total	1970 With Antigen	1971 Total	1971 With Antigen
Kurkinskiy	149	33	24	--	22	1
Yefremovskiy	58	23	40	--	14	--
Kamenskiy	--	--	14	--	40	1
Chernskiy	--	--	8	--	117	--
Teplo-Orarevskiy	27	4	24	--	--	--
Kireyevskiy	--	--	30	--	166	2
Odoyevskiy	--	--	2	--	98	42
Dubenskiy	--	--	--	--	185	55
Leninskiy	--	--	22	--	168	5
Venevskiy	2	--	67	2	--	--
Yasnogorskiy	--	--	23	3	--	--
Zaokskiy	--	--	4	--	46	2
Alekseinskiy	--	--	12	--	36	--
Prochiye	8	--	50	--	32	--
Total	244	60	320	5	932	108

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DOBROKHOTOV, B. P., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 7, 1973, pp 105-108

Drawing

EXAMINATION OF PELLETS OF BIRDS OF PREY FOR TULAREMIA MICROBE ANTIGEN CONTENT IN MEADOW-FIELD FOCI OF TUL'SKAYA OBLAST

1. Sites of Formation of Cultures of Tularemia Microbe From the Smaller Mammals, From Their Excrement and Ixodic Ticks
2. Collection Point of Pellets in 1969
3. Collection Point of Pellets in 1970
4. Collection Point of Pellets in 1971

Crosshatched symbols are points where the tularemia microbe antigen was found in pellets; dotted symbols are points at which more than 5 pellets were collected.

Key:
1. Yasnogorsk
2. Venev
3. Tula
4. Dubna
5. Suvorov
6. Shchekino
7. Kireyevsk
8. Odoyev
9. Teploye
10. Kurkino
11. Yefremov

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UDC 576.851.45.095.14.097.29

USSR

MESHCHERYAKOVA, I. S., Institute of Epidemiology and Microbiology imeni Gamaleya Academy of Medical Sciences USSR, Moscow

"A Study of the Toxicity of 'F. Tularensis' Following the Action of Ionizing Radiation"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 43-47

Abstract: Toxicity studies were carried out on virulent F. tularensis strain 503 killed by ionizing radiation (300-500 kilorads). The treated bacterial suspension killed white mice within 3 days. Though live bacterial cells were not detected in organ smears, pathological and anatomical changes in dying animals indicated intoxication and resembled those following injections of large doses of live bacteria. Storage of the toxic component at 4°C did not prevent its degeneration, which was noticeable after 4-6 days and complete after 30 days. While normal rabbit serum did not neutralize toxic irradiated suspensions, immune serum obtained from rabbits injected with strain 503 protected white mice from lethal doses of irradiated suspension. Supernatant liquid obtained after centrifugation of the irradiated suspension did not affect white mice, while resuspended precipitate caused death in all cases.

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USSR

MESHCHERYAKOVA, I. S., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 43-47

Comparison of the effects of irradiated strain 503 suspension with those of irradiated suspension from an avirulent strain which does not produce endotoxin (no deaths in the latter case) indicated that endotoxin is one factor causing strain 503 to be virulent. Mice immunized with sublethal doses of the irradiated strain 503 suspension did not develop significant immunity to lethal strain 503 injections administered 15 days after immunization: Few animals survived, and the only effect of the irradiated suspension was to delay time of death by 4-8 days as compared to controls. Thus it is shown that the endotoxin produced by F. tularensis is resistant to radiation doses that are lethal to the bacterium.

UDC 616.981.455-078.73

USSR

DUNAYEVA, T. N., VORONTSOVA, T. A., and MESHCHERYAKOVA, I. S., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR

"Some Features of the Seroallergic Examination of Persons for Tularemia"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, Apr 71, pp 12-16

Abstract: A skin allergy test with tularia, an agglutination test, and the passive hemagglutination test with 264 inhabitants (natives and arrivals from elsewhere) or Nadymskiy Rayon, Yamalo-Nentsk National District, who had not been immunized against tularemia, yielded positive results in 24.2, 34.9, and 42.8% of cases, respectively. Coinciding positive results in all three tests were obtained for 54 persons. All positive results in the allergy test were regarded as diagnostically valid. Coinciding positive results in the two serological reactions (the allergy test may be negative in persons with tuberculosis despite a past infection with tularemia), or positive results in either serological reaction at titers ≥ 1:40 resulted in a retrospective diagnosis of tularemia for 99 persons (37.4% of cases) excluding in the agglutination test cross-reactions due to brucellosis (two such cross-reactions were observed).
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USSR

DUNAYEVA, T. N., et al., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 48, No 4, Apr 71, pp 12-16

Use of all three reactions made it possible to establish more precisely the ratio of persons with immunity to tularemia in the population and to eliminate nonvalid positive results obtained at low serum dilutions. A predominance of positive results in serological reactions over those in the allergy test is typical for inhabitants of northern regions. It is due to a lowered allergic sensitivity of the skin caused by vitamin C deficiency

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Epidemiology

UDC 59.616.981.455(470.311)

USSR

OLSUF'YEV, N. G., DOBROKHOTOV, B. P., DUNAYEVA, T. N., KOVALEVSKIY, YU. V., and MESHCHERYAKOVA, I. S., Tularemia Laboratory and Laboratory of Medical Zoology, Division of Natural Focus Infections, Institute of Epidemiology and Microbiology, Academy of Medical Sciences USSR, Moscow

"Experience of Long-Term Study of a Natural Meadow-Field Tularemia Focus in Southern Moscow Oblast"

Moscow, Zoologicheskiy Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

Abstract: Records were kept of rodent and tick densities, human tularemia outbreaks, and epizootics in Stupinskiy and part of Podol'skiy Rayon since 1938 (when the 1st human tularemia outbreak was recorded) until 1971. Human outbreaks followed periodic rodent density increases until 1952, after which time no cases were reported due to a vaccination program. The principal rodent (Microtus arvalis, Micromys minutus, Apodemus agrarius, Arvicola terrestris) and tick (Dermacentor pictus, Ixodes ricinus, rarely I. trianguliceps) densities fluctuated more or less synchronously over about 4-year periods, but maximum densities decreased with time, particularly after 1963, probably due to improvements in agricultural procedures and consequent reduction of rodent and tick

USSR

OLSUF'YEV, N. G., et al., Zoologicheskiy Zhurnal, Vol 51, No 9, 1972, pp 1425-1429

habitat. Epizootics continued to be detected however during moderate rodent density increases after 1967. Thus the tularemia focus continued to maintain itself despite agricultural innovations, though outbreaks were highly localized. It is suggested that tularemia agent can survive long periods not only in ticks but also by means of direct transfer from diseased to healthy rodents. Straw stacks left in fields during winter provide concentration areas for rodents and thus help to maintain the focus.

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USSR

UDC: 576.851.45.097.2.07

KATS, L.N., MESHCHERYAKOVA, I.S., and OGIYEVETSKAYA, M.M., Institute of Epidemiology and Microbiology imeni Gamaleya, Academy of Medical Sciences USSR, and Institute of Biophysics, Academy of Sciences USSR

"Determination of the Localization of Antigens in F. tularensis Using ferritin-Labeled Antibodies: Electron-Microscope Studies"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 2, 1970, pp 51-55

Abstract: Localization of Vi and O-antigenic complexes in tularemia bacteria was studied using ferritin-labeled antibodies. Vi antigen in a virulent strain and O antigen in an avirulent strain were found in the outer, mucous, capsule-like sheath of the bacterial cell, and not on the surface of the cell wall. The Vi antigen was localized in the mass of the sheath, and the O antigen on its surface. The nature and amount of Vi and O antigenic determinants as revealed by the ferritin method corresponded to the visual picture of Vi and O agglutination in tularemia bacteria.

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UNCLASSIFIED PROCESSING DATE--30OCT70

1/3 008

TITLE--CYCLOPENTENE AND 1,METHYL,2,CYCLOPENTENE REACTIONS IN THE PRESENCE OF RARE EARTH OXIDES -U-

AUTHOR-(02)-SOSNINA, I.YE., MESHCHERYAKOVA, T.V.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MGSK. UNIV., KHIM. 1970, 11(1) 106-11

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIC GROUP, ALKENE, CHEMICAL REACTOR, CATALYST ACTIVITY, NAPHTHALENE, ISOMERIZATION, RARE EARTH COMPOUND, LATHANUM OXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

STEP NO--UR/0189/70/011/001/0106/0111

PROXY REEL/FRAME--1987/1713

CIRC ACCESSION NO--AP0104915

UNCLASSIFIED

2/3 008 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0104915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTIONS OF CYCLOPENTENE (I) AND 1,METHYL,2,CYCLOPENTENE (II) IN THE PRESENCE OF LA SUB2 O SUB3, ND SUB2 O SUB3, GD SUB2 O SUB3, AND ER SUB2 O SUB3 (III) WAS STUDIED AT 375-575DEGREES IN BY PASS AND PERIODIC MICROCATALYTIC REACTORS. THE INFLUENCE OF C FORMATION AND CATALYST POISONING BY C SUB5 H SUB5 N WAS STUDIED. THE CATALYSTS (CF. CA 61: 13179A) WERE INITIALLY CALCINED AT 550-720DEGREES. FOR THE BY PASS REACTOR 6 G CATALYST WAS SUPPORTED ON 50 ML SIO SUB2, AND THE HYDROCARBON SPACE VELOCITY WAS D.2 HR-L., IN THE PERIODIC REACTOR 0.8-1 G UNSUPPORTED CATALYST WAS USED AT A HYDROCARBON LEVEL OF 203 MG IN HE STREAM (35-45 ML-MIN). THE BEST RESULTS (IN THE BY PASS REACTOR) WERE OBTAINED ON ER SUB2 O SUB3 (CALCINED AT 575DEGREES) AT 500DEGREES: I GAVE 23PERCENT CYCLOPENTADIENE (IV) AND II GAVE 23PERCENT 1,METHYL,1,CYCLOPENTEN (V). THE REACTION OF I AT LARGER THAN 475DEGREES GAVE ALSO NAPHTHALENE (VI) (UP TO 12PERCENT). THE MIXT. OBTAINED FROM II CONTAINED ALSO 1,METHYL,3,CYCLOPENTENE (VII) (AT ALL TEMPS. 4-6PERCENT) AND AT LARGER THAN 400DEGREES METHYLCYCLOPENTADIENE (VIII) 7, C SUB6 H SUB6 (IX) 6, AND CYCLOHEXADIENE 0.5-1PERCENT. INCREASED CATALYST CALCINING TEMP. REQUIRED INCREASED REACTION TEMP. AND THE ACTIVITY OF THE CATALYST FOR THE ISOMERIZATION OF II DECREASED 1.5 FOLD. THE PROCESS TEMP. IN THE PERIODIC REACTOR WAS (FOR I) 375-525DEGREES AND (FOR II) 275-400DEGREES WITHOUT CHANGE OF THE CONVERSION DEGREE OF I TO IV AND II TO V AND VI, THE YIELD OF VI WAS 1-2PERCENT, VIII AND IX WERE ABSENT. THE POISONING OF ER SUB2 O SUB3 DECREASED ITS ACTIVITY, ESP. FOR THEISOMERIZATION OF II TO V.

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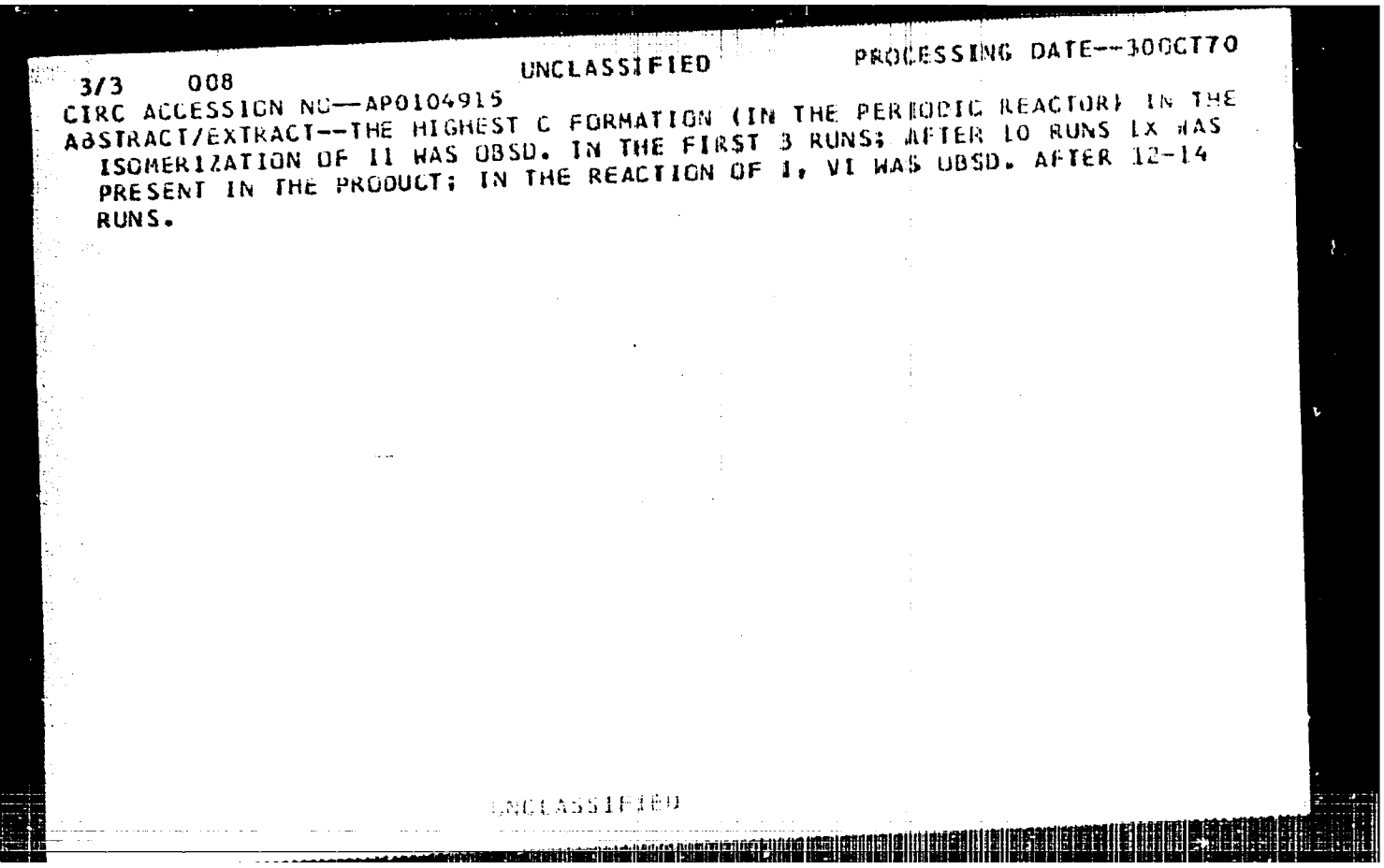

3/3 008 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0104915

ABSTRACT/EXTRACT--THE HIGHEST C FORMATION (IN THE PERIODIC REACTOR) IN THE ISOMERIZATION OF II WAS OBSD. IN THE FIRST 3 RUNS; AFTER 10 RUNS IX WAS PRESENT IN THE PRODUCT; IN THE REACTION OF I, VI WAS OBSD. AFTER 12-14 RUNS.

UNCLASSIFIED

Acc. Nr: AP0050814 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0502

98347c Effect of the hypofunction of the thyroid gland on glycogenesis and RNase activity of the liver. Kovtunyak, N. A.; Tsapok, P. I.; Meshchishen, I. F. (Chernovitsy. Med. Inst., Chernovitsy, USSR). *Probl. Endokrinol.* 1970, 16(1), 84-7 (Russ). Blocking of the thyroid gland function in rats with 6-methylthiouracil (10 mg/100 g orally for 20 days) increased the liver glycogen and K levels and decreased the blood sugar, K, and Cu and liver Cu levels. 6-Methylthiouracil action reduced the protein content and increased the RNase activity of the liver. The increased enzymic activity may be connected with the increased liver K and the RNA breakdown may lead to disruption of protein biosynthesis. BJJR

REEL/FRAME
19810816

UDC 681.325.65

USSR

[redacted] I. I.

"Device for Decoding Cyclic and Binary-Shifted Codes"

USSR Author's Certificate No 316086, Cl. G 06 f 5/02, filed 6 May 69, published 9 Nov 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B181P)

Translation: The proposal concerns the field of automation and computer technology and is intended for the decoding of cyclic code (Gray code) and binary-shifted code (Barker code) from groups of transducers that differ as to coding type. Devices for decoding cyclic and binary-shifted codes from different (in respect of coding type) groups of transducers are known which for each group of transducers contain autonomous lines, a converter of the corresponding code to binary code, and group gates. In the proposed device the first input code line is connected to the direct inputs of the high-order and low-order digit cells of the cyclic and binary-shifted code converters respectively and also through an inverter to their inverse inputs. Input code lines 2-7 are connected to the digit cells of the first (high-order) group (containing six cells) of the cyclic code converter and to cells of the first (high-order) group (containing four cells) of the binary-shifted code converter. Input code lines 8-13 are connected to cells of the second group (containing six subsequent cells) of the

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USSR

MESHECHKIN, I. I., USSR Author's Certificate No 316086

cyclic code converter and to cells of the second group (also containing six subsequent cells) of the binary-shifted code converter, to which are also connected the input code lines. Input code lines 20 and 21 are connected to the cells of the first group of the binary-shifted code converter. Outputs of all cells of the cyclic code converter, outputs of cells of the first and second groups of the cyclic and binary-shifted code converters respectively, and outputs of all cells of the binary-shifted code converter are connected to the inputs of the group gates corresponding to them, to which are also connected the first input code line and the indicator lines of the transducers and the sense line, while the outputs of the group gates are connected through bit-by-bit OR circuits to the output code lines. This permits simplifying the circuit of the device.

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1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--USE OF CONVERSION GAS FOR REMOVAL OF METHANE HOMOLOGS FROM NATURAL GAS BY HYDROGENATION -U-

AUTHOR-(05)-BERSHTEYN, A.YA., KHRULEV, V.L., NESHENKO, N.T., KOVALENKO, N.A., VESELOV, V.V.

COUNTRY OF INFO--USSR

SOURCE--NEFT. GAZOV. PROM. 1970, (1), 45-6

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY

TOPIC TAGS--METHANE, NATURAL GAS, HYDROGENATION, CARBON MONOXIDE, METAL CATALYST, NICKEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/1967 STEP NO--UR/0513/70/000/001/0045/0046

CIRC ACCESSION NO--AP0133811

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--13NOV70

2/2 015

CIRC ACCESSION NO--AP0133811

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GAS MIXT. CONTG. 74.6PERCENT H AND 20PERCENT CO, OBTAINED BY CATALYTIC CONVERSION OF NATURAL GAS AT 900DEGREES, WAS USED FOR THE DESTRUCTIVE HYDROGENATION OF CH SUB4 HOMOLOGS IN NATURAL GAS. A MIXT. OF 1 PART OF THE GAS MIXT. AND 3.5-5.6 PARTS NATURAL GAS WAS PASSED OVER A REDUCED NI CATALYST AT 300DEGREES.

UNCLASSIFIED

Acc. Nr. AP0100579 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: UR0065

102349z Vapor conversion of a gasoline raffinate under pressure. Veselov, V. V.; Meshenko, N. T.; Tsimbalistaya, N. N. (Inst. Gaza, USSR). *Khim. Tekhnol. Topl. Masel* 1970, 15(2), 13–17 (Russ). During steam conversion of a dearomatized platformate gasoline, b. 43–136°, introduced as a 1:5 gasoline–steam mixt. at a vol. rate of 1 hr^{-1} onto a 1:1 Ni–Cr catalyst at 320°, an increase in pressure from 1 to 31 atm reduced H content in the product from 62.0 to 31.5% and raised CH_4 content from 15.2 to 43.1% without substantially changing CO_2 content. The limiting feed rate for complete gasification increased linearly from 1.7 to 4.4 hr^{-1} as the pressure was increased from 1 to 20 atm. At 20 atm and otherwise identical conditions, a change in input rate from 1 to 5 hr^{-1} did not appreciably affect product compn. At an input rate of 4.4 hr^{-1}, a temp. increase from 300 to 320° raised conversion from 20 to 100%. When H was the desired product, purer H and higher efficiency were attainable by carrying out the process in 2 stages, the first an adiabatic one at low temp. in a flow reactor and the second a H production process in a tube furnace, the first section of which was operable with the converted feed at 700–800° without carbonization of the catalyst.
Lucile S. Davison

REEL/FRAME
19842014

USSR

UDC: 681.3

MESHIN, V. M., KHLYUPIN, G. D.

"A Device for Controlling the Beam of a Flat Antenna Array"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335692, Division G, filed 16 Jan 69, published 11 Apr 72, p 207

Translation: This Author's Certificate introduces a device for controlling the beam of a flat antenna array in which the storage function is implemented by phase shifters or by controlling phase-shifter switching circuits. The device contains a computer control unit, a subtracting counter unit and two coordinate multipliers. As a distinguishing feature of the patent, the device is simplified by including summing line counters and reversible column counters. The outputs of the coordinate multipliers are connected to the inputs of the summing line counters and reversible column counters, whose outputs are connected through coincidence gates to the inputs of the switching circuits.

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USSR UDC: 539.4:624.012

MESHKAUSKAS, Yu.

"Determination of the Stressed State of Centrally Distended Prestressed Keramzit-Concrete Elements With Regard to Long-Term Processes"

V sb. Proiz-vo i primeneniye konstruktsiy iz legk. i yacheist. betonov (Production and Use of Structural Elements From Lightweight and Cellular Concretes--collection of works), Vil'nyus, 1970, pp 74-81 (from RZh-Mekhanika, No 4, Apr 71, Abstract No 4V826)

Translation: A method is proposed for calculating losses of preliminary stress due to creep and shrinkage of centrally compressed keramzit-concrete elements. The problem is solved on the basis of the theory of an elastically creeping body with regard to equations of equilibrium and the conditions of compatibility of deformations of concrete and reinforcement. The basic integral equations are solved by using the method of N. M. Krylov and N. N. Bogolyubov. Cases of tension on the reinforcement by supports and by concrete are considered. The elements are reinforced by both prestressed and ordinary reinforcing. The problem is solved in application to both linear and nonlinear regions of creep of the concrete. The func-

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MESHKAUSKAS, Yu., Proiz-vo i primeneniye konstruktsiy iz legk. i yacheist. betonov, Vil'nyus, 1979, pp 74-81

tion of nonlinearity is taken in the form

$$\Psi[\sigma_\delta(\tau_0)] = \sigma_\delta(\tau_0) + \beta\sigma_\delta^2(\tau_0)$$

where σ_δ is the stresses in the concrete, τ_0 is the moment of origin of the stresses, and β is an experimental quantity defined according to I. I. Ulitskiy. Formulas are presented for determining the losses of stresses in the reinforcing and changes in the stresses in the concrete for different calculated cases. Results are given from comparison of theoretical and experimental values of losses of preliminary stress in reinforcing due to creep and shrinkage of keramzit-concrete (for insulated and noninsulated specimens). Divergences between the experimental values of losses and the theoretical values calculated on the basis of the theory of an elastically creeping body did not exceed 6.4 percent. The corresponding divergences from the theoretical values calculated on the basis of recommendations of Construction Specifications and Regulations P.V.I-62 (with regard to the peculiarities of keramzit-concrete) were within the range of -19 to 28 percent. O. M. Popkova.

Construction

USSR

[redacted], Candidate in Technical Sciences, [redacted], Engineer

"Prestressed Keramzit-concrete Roof Slabs With Dimensions of 3 x 12 Meters"

Moscow, Beton i Zhelezobeton, No 5, May 70, pp 31-33

Abstract: This report covers the results of testing these panels. The slabs tested were of two types, PNS30 - 12 and PNS22, with PNKSla reinforcement in the latter. The panels were made using keramzite gravel with a particle size of 5-20 millimeters (45% under 10 millimeters and 55% over 10 millimeters). The strength of the keramzite-concrete in a cylinder is 25-30 kilograms per square centimeter, and its bulk weight is 1550-600 kilograms per cubic meter. The formula for 1 cubic meter of keramzite-concrete is keramzite 0.8-0.85 cubic meters, type 400 cement -- 500 kilograms, quartz sand 0.35-0.4 cubic meters. The water to cement ratio varied from 0.55 to 0.60. The reinforcements were class A-IIIb steel rods of varying cross section, stressed to 4800-5000 kilograms per square centimeter.

The panels were tested under different loads for short and long periods (3 and 200 days). The following conclusions were drawn: The panels are 30-35% 1/2

USSR

MESHKAUSKAS, Yu, I., et al, Beton I Zhelezobeton, No 5, May 70, pp 34-35

lighter than similar panels of heavy concrete, which reduces the steel requirement by 10-13%; under standard loading, the panels are in an elastic state and show sufficient rigidity under both brief and prolonged loads; the displacement after 200 days under load is 1.5 times that for brief loads, and after 1000 days it is 1.75-1.8 times that under brief loads; due to the plastic deformation (settling and creep) of keramzite-concrete from the shrinking of prestressed reinforcements, the panels shrink even under standard load, which must be taken into account in the design of supporting members and attachments; since the panels have not been tested under repeated horizontal loads, they should be used for the roofs of buildings without an overhead crane installation or with a light load crane whose capacity does not exceed 10 tons.

The results of the tests are given in detail, including two tables and five graphs.

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UDC: 621.373.2.029.64.001.5

USSR

LEBEDEV, I. V., MESHKICHEV, V. N.

"On the Relationship Between the Limiting Amplitude of the Constant Magnetic Field of Magnetron Oscillators and the Threshold Power of M-Type Amplifiers"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2574-2579

Abstract: The authors discuss the limitation of self-excitation of magnetron oscillators with increased induction of the constant magnetic field; a comparison is made with the minimum input signal of M-type amplifiers. The existence of a boundary of the zone of magnetron emission is experimentally established.

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UDC 621.391.814.23

USSR

KISELEV, L.K., MAMONOV, V.A., [redacted]

"Method Of Detection Of Sections Of Pulse Noise Formation In Communication Channels"

USSR Author's Certificate No 307527, filed 10 Nov 69, published 23 Aug 71 (from RZh: Elektrosvyaz', No 2, Feb 1972, abstract No 2.64.75P)

Translation: It is known that detection of sections of formation of pulse noise in communication channels is performed by distortions of the frequency characteristics of the channel at retransmission points, with subsequent analysis of the noise spectra at the terminal station. Additional equipment at the retransmission sections is required for this; detection of the noise is conducted only at one retransmission point and it is impossible to determine the sections of noise formation in channels occupied with transmission. It is proposed to make a frequency selection of the noise in two frequency subbands of the channel, which is chosen with different dependences of the residual attenuation on the length of the channel. With the presence of noise, stored energy occurs, entering into each subchannel; analyzing the ratio of these magnitudes it is possible to determine the distance to the place of formation of the noise. N.L.

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UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 2/70

242246 LOCATION OF IMPULSIVE INTERFERENCE IN THE COMMUNICATION CHANNELS. Interfering signals in two channels (2) and (3) are passed to the amplifiers (4) and (5), their outputs are applied to the threshold system (6) and (7) then interferences are transformed into (packets) pulse trains in (10) and (11). Block (12) is a measuring device, which determines the time difference between two signals. When time is zero the source is located. Impulses (13) energize the register (14), which through the coincidence scheme (15) energizes counters (16).

12.12.67 as 1202318/26-9. A.A.MESHKOV (16.9.69) Bul 15/ 25.4.69. Class 21a^{6}. Int.Cl. H 04j.

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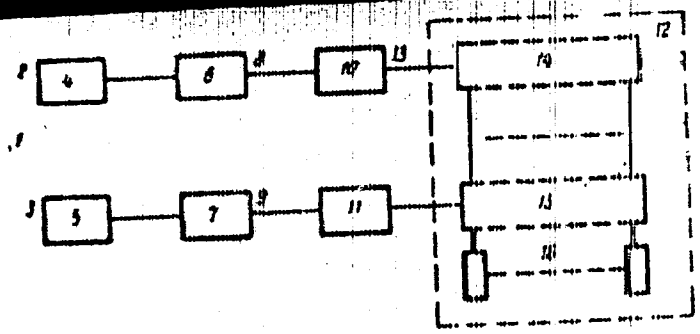

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UDC 621.373

USSR

KATAYEV, I.G., LIPATOV, N.F., MESHKOV, A.N., ROZHKOV, I.I.

"Generator Of Nanosecond Pulse Power On Nonlinear Transmission Lines With Ferrite"

Moscow, Pribory i Tekhnika Eksperimenta, No 5, Sept-Oct 1971, pp 126-130

Abstract: The paper describes in detail the generator circuit and the construction, operation, and characteristics of a generator of nanosecond pulses for supply of injection lasers and other electron-optical devices. The power of output pulses as high as 300 kw permits operation with an unmatched load. The duration of pulses of every polarity is from 2 to 30 nanosecond. The amplitude of the current with a low-resistance load is as high as 800 a; the voltage with a capacitive load is as much as 10 kv. The generator is constructed on the principle of forming electromagnetic shock waves in a transmission line with a ferrite. Received by editors 15 March 71. 7 ref. 3 fig. 1 tab. [Gor'kiy Polytechnical Institute]

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1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EXPERIENCE OF USING LIQUID NITROGEN FOR TREATMENT OF CERTAIN DERMATOSES -U-

AUTHOR--MESHKOV, M.I.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 4, PP 63-67

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LIQUID NITROGEN, SKIN DISEASE, FACE, TUMOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1421 STEP NO--UR/0206/70/000/004/0063/0067

CIRC ACCESSION NO--AP0125055

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--23OCT70

2/2 020

CIRC ACCESSION NO--AP0125055

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MASSAGES AND APPLICATIONS OF LIQUID NITROGEN WERE GIVEN TO 2318 PATIENTS (8523 SEANCES OF TREATMENT) AMONG WHOM THERE WER 517 MEN, 329 WOMEN AND 1472 CHILDREN WITH THE DURATION OF THE DISEASE FROM 1 TO 20 YEARS OR MORE. UNDER OBSERVATION THERE WERE 1672 PATIENTS WITH COMMON WARTS, 267 WITH PAPILLOMAS OF THE FACE, 244 WITH SOFT FIBROMAS OF THE SKIN, 81 WITH PLANTAR WARTS, 15 WITH LICHEN RUBER VERRUCOSUS, 11 WITH SECONDARY KERATODERMIA OF PALMS AND SOLES, 10 WITH RESTRICTED NEURODERMATITIS, 9 WITH ACNE ROSACEA, 7 WITH SPHERICAL AND PUSTULOUS ACEN, 2 WITH PREGLE'S DESEASE. CLINICAL CURE WAS ACHIEVED IN 94.7PERCENT OF THE PATIENTS, CONSIDERABLE IMPROVEMENT AND IMPROVEMENT IN 4.32PERCENT, NO EFFECT IN 0.98PERCENT. THIS METHOD IS COMPARATIVELY SIMPLE, WELL TOLERATED BY THE PATIENTS, PRODUCES NO COMPLICATIONS OR AGGRAVATIONS OF THE DERMATIC PROCESS AND MAY BE RECOMMENDED FOR USE IN OUT PATIENT CLINICS. FACILITY: DERMATOLOGICHESKAYA KLINIKA MOSCOW N-1 INSTITUTA KOSMETOLOGII MINISTERSTVA ZDRAVOUKHRANENIYA RSFSR AND MOSCOW KOZHNOVENEROLOGICHESKIY DISPANSER NR 5.

UNCLASSIFIED

USSR UDC: 621.317:621.391.822

KLYUYEV, L. L., MESHKOV, M. N., SOLONENKO, V. G., KHODASEVICH, R. G., CHERDYNTSEV, V. A.

"Comparative Analysis of Instruments for Measuring the Delay Time of Noise-Like Signals"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmeritelyam. T. 2 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 2), Novosibirsk, 1970, pp 147-148 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A316)

[No abstract]

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USSR

UDC 621.385.632

AL'TSHULER, YU.G., MESHKOV, O.F.

"To A Linear Theory Of B/T With Finite Values Of The Amplification Parameter, Taking Account Of The Thermal Spread Of Electrons With Respect To Velocity"

V sb. Vopr. elektron. tekhn. (Problems Of Electronics Technology--Collection Of Works), No 2, Saratov, Saratov University, 1971, pp 3-14 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A157)

Translation: In the limits of a one-dimensional model of a beam based on a method of characteristic equations, a computation is made of the effect of thermal spread of electrons with respect to velocity on the trigger conditions of backward-wave tubes with finite values of the amplification parameter, the space charge, and losses. The evaluation conducted showed that with the specified parameter of the spread of electrons with respect to velocity, the most intense thermal spread for the operation of a B/T appears with small values of the amplification parameter. It is shown that thermal spread of electrons with respect to velocity, for small values of the trigger amplification parameter, leads to a noticeable increase of the trigger electrical length. With sufficiently large values of the amplification parameter, a thermal spread at the trigger conditions of the B/T practically does not appear. 7 ref. V.M.

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USSR

UDC 621.385.632:621.385.633

CHIGIREV, V.P., MESHKOV, O.F.

"Nonlinear Theory Of Devices With Persistent Interaction Of The 'O' Type With Periodic Electrostatic Focusing Of An Electron Beam With Finite Values Of The Amplification Parameter"

Nelineynaya teoriya priborov s dlitel'nym vzaimodeystviyem "O" -- tipa s periodicheskoy elektrostaticheskoy fokusirovkoy elektronnogo puchka pri konechnykh znacheniyakh parametra usileniya (cf. English above. Editorial Board Of Journal "Radio-engineering And Electronics" AS, USSR), Moscow, 1970, 19 pp, Bib., 6 titles (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract 8A159 DEP)

Translation: The derivation is presented of a system of nonlinear one-dimensional equations for TWT and BWT with periodic electrostatic focusing (PEF) of the electron beam; after the accuracy of the equations derived has been indirectly confirmed, a linearization of these equations is conducted and expressions are obtained which determine the efficiency of TWT and BWT with PEF. In the particular case of an absence of longitudinal static fields in the interaction area, the one-dimensional nonlinear equations obtained for TWT and BWT with PEF develop into corresponding equations for TWT and BWT, with infinitely strong focusing by a magnetic field. Author's summary.

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USSR

UDC 539.374

GONSOVSKIY, V. L., MESHKOV, S. I., ROSSIKHIN, Yu. A.

"Study of the Roots of the Characteristic Equation Associated With Damping Oscillations of Elastically Hereditary Systems"

V sb. Rasseyaniye energii pri kolebaniyakh mekh. sistem (Energy Scattering in the Oscillations of Mechanical Systems -- Collection of Works), Kiev, "Nauk. dumka", 1972, pp 101-107 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V509)

Translation: The roots of the characteristic equation

$$g(p) = p^{2+\gamma} + p^{\gamma} s_{\varepsilon}^{\gamma} + p^{\gamma} \omega_{\varepsilon s}^{2} + \omega_{0}^{2} s_{\varepsilon}^{\gamma} = 0$$

determining the displacement $x(t)$ associated with damping oscillations of an elastically here itary oscillator with a relaxation nucleus of the form

$$R(t) = s_{\varepsilon}^{\gamma} \Im_{\gamma}(-1, t, s_{\varepsilon}),$$

which completes its motion after an impulse action at time $t = 0$ are investigated. The displacement $x(t)$ in a Laplace space has the form

$$x_{*}(p) = F\left(p^{\gamma} + s_{\varepsilon}^{\gamma}\right)/g(p)$$

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USSR

GONSOVSKIY, V. L., et al, Rasseyaniye energii pri kolebaniyakh mekh. sistem, Kiev, "Nauk. dumka", 1972, pp 101-107

where F is the amplitude of the force impulse, ω_∞ and ω_0 are the frequencies of elastic oscillations corresponding to nonrelaxation E_∞ and relaxation E_0 to values of the elastic modulus, $\varepsilon_\varepsilon = \tau_\varepsilon^{-1}$ is the relaxation frequency and $\Im_\gamma$ is a fractional exponential function of Yu. N. Rabotnov with the fractionality parameter γ. An appropriate formulation making it possible to reduce this equation to two equations facilitating the solution of the problem is applied to find the roots of the equations $g(p)$, where p is the parameter of the Laplace transformation. Various particular cases are discussed. It was established in particular that under appropriate conditions the quantity $w(t)$ represents the sum of two parts, one of which describes the changing equilibrium position with time and is associated with the retardation processes occurring in the dynamic system while the other describes damping harmonic oscillations around the equilibrium position. 8 ref. M. I. Rozovskiy.

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USSR

UDC: 539.376+532.135

ZELENEV, V. M., MESHKOV, S. I.

"Weakly Singular Heredity Kernel With Two Divisibility Parameters"

Tr. NII mat. Voronezh. un-ta (Works of the Scientific Research Institute of Mathematics of Voronezh University), 1971, vyp. 4, pp 130-133 (from RZh--Mekhanika, No 5, May 72, Abstract No 5V452)

Translation: Assuming that the relaxation kernel is characterized by two divisibility parameters, its expression in Laplace space is written

$$R(p) = \left[1 + (p\tau_e)^{\gamma_1}\right]^{\gamma_2}, \quad p = s + i\sigma$$

Here p is a complex variable, τ_e is the "effective" value of the relaxation time, γ_1 and γ_2 are the divisibility parameters. The original of the relaxation kernel is expressed in terms of distribution functions of the relaxation time and the logarithms of the relaxation time. The asymptotic behavior of the resultant solution is investigated. Representing the kernel in this way enables formal extension of the operator modulus concept to the complex case. By way of illustrating the properties of the resultant hereditary function in dynamic problems, the characteristics of a one-dimensional sinusoidal wave are calculated. L. Kh. Papernik.

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UDC 539.67

USSR

MESHKOV, S. I., and POSTNIKOV, V. S.

"On the Problem of Internal Friction Background in Solid State Bodies"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka", 1970, pp 43-47

Abstract: Two phenomenological approaches to a description of the internal friction background are considered.

Physical mechanisms of relaxation processes responsible for the internal friction background are described briefly. It is shown that weakly singular complete functions and the corresponding distribution function may be obtained from a consideration of mechanisms of specific relaxation processes.

11 references.

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UDC 539.67

USSR

POSTNIKOV, V. S., MESHKOV, S. I., KOSILOV, A. T., YEL'KIN, Yu. M., and KOROTAYEV, Ye. A.

"On Amplitude Dependence of Internal Friction in Uniaxially Stretchable Metals"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka," 1970, pp 76-79

Abstract: Results of a study on internal friction in aluminum are presented. The data obtained are discussed on the basis of concepts on thermally activated overcoming of short-range barrier by dislocations, taking into account the supplementary periodical stresses in slip planes, produced by torsional vibrations.

A relation is obtained which characterizes the amplitude dependence of Q^{-1} in the tensile process. The magnitude of activation volume for a proposed mechanism is determined. The activation volume vs. elongation velocity is plotted. 3 figures, 7 references.

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UDC 539.374

USSR

MESHKOV, S. I., ROSSIKHIN, Yu. A.

"On Propagation of Acoustic Waves in a Viscoelastic Medium Whose Hereditary Properties are Determined by Weakly Singular Kernels"

V sb. Volny v neuprugikh sredakh (Waves in Inelastic Media--collection of works), Kishinev, Academy of Sciences of the Moldavian SSR, 1970, pp 162-172 (from RZh-Mekhanika, No 4, Apr 71, Abstract No 4V387)

Translation: Based on the example of an acoustic wave, the authors study the singularities of dynamic behavior of a viscoelastic medium whose relaxation properties are determined by weakly singular functions chosen as the kernels of integral operators. Abel, Rabotnov and Rzhanitsyn kernels are considered as specific examples. The resultant expressions for the variance of the velocities of propagation, loss tangent, logarithmic decrement and dynamic modulus show that weakly singular functions can be used to describe the dynamic regularities of viscoelastic systems which have a relaxation-retardation spectrum. A singularity of Abellan type in these kernels at the initial time in explicit form shows up in behavior of the coefficient of absorption at an infinitely high frequency. Authors' abstract.

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UNCLASSIFIED PROCESSING DATE--20NOV70

1/2 035

TITLE--EFFECT OF THE AMPLITUDE OF TORSIONAL VIBRATIONS ON THE TENSILE STRAIN STRESS CURVE OF ALUMINUM -U-

AUTHOR-(04)-POSTNIKOV, V.S., KOSILOV, A.T., KOROTAYEV, YE.A., NESHKOV, S.I.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, VOL. 29, MAR. 1970, P. 655-657

DATE PUBLISHED----MAR70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--STRESS STRAIN DIAGRAM, ALUMINUM, CRYSTAL DISLOCATION, BIBLIOGRAPHY, TENSILE TEST, TORSIONAL VIBRATION, STRESS ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1460

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CIA ACCESSION NO--AP0125090

UNCLASSIFIED PROCESSING DATE--20NOV70

2/2 035
CIRC ACCESSION NO--AP0125090
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE EFFECT OF THE AMPLITUDE OF TORSIONAL VIBRATIONS ON THE STRAIN STRESS CURVE OF POLYCRYSTALLINE ALUMINUM SUBJECTED TO A UNIAXIAL TENSILE TEST. IT IS SHOWN THAT THE STRAIN STRESS CURVE EXHIBITS A STEPWISE BEHAVIOR WHICH IS EXPLAINED IN TERMS OF THE DISLOCATION THEORY.
FACILITY:
VORONEZHSKII POLITEKHNICHESKII INSTITUT, VORONEZH, USSR.

USSR

RYABYKH, S. M., MESHKOV, V. A., and ZAKHAROV, Yu. A., Tomsk Polytechnic Institute imeni S. M. Kirov

"Dissociation of AgN_3 Crystals by X-Radiation"

Ivanovo, Izvestiya Vysshikh Uchebnykh Zavedeniy, Khimiya i Khimicheskaya Tekhnologiya, Vol XII, No 11, 1970, pp 1,558-1,560

Abstract: The authors studied the radiolysis kinetics of silver nitride and the effect of the presence of Pb^{2+} ions on the radiation stability of AgN_3, estimating the degree of dissociation by the amount of radiolytic nitrogen retained by the lattice.

The experimental study was made with AgN_3 monocrystals, both pure and with Pb^{2+} admixtures, at temperatures in the 20-150°C range, with dose rate of $4.3 \cdot 10^{16}$ ev/g-sec.

UDC 691.87-417:620.172

USSR

MULIN, N. M., and MESHKOV, V. Z., Moscow Scientific Research Institute of Concrete and Reinforced Concrete

"Mechanical Properties of Hot-Rolled Reinforcing Steels at Low Temperatures"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 115-118

Abstract: Data on the mechanical properties of reinforcing steels of periodical profile are presented on the basis of tests conducted on Menager and full-scale samples. Experimental techniques for studying the sensibility of reinforcing steel to stress concentration in relation to temperature and stress concentrator location are described. Tests were conducted on five brands of steel: St5sp, 10GT, 35GS, 80S, and 23Kh2G2T. Their chemical compositions and mechanical properties are given in a table. The results of tests with man-made stress concentrators showed that the presence of a cut does not affect the strength properties of samples at room temperature, while a decrease (10-21%) in short-time strength was observed with 35GS and 80S steels at low temperature (-60°). The steels are classified into three groups, according to the effect of stress concentration.

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UDC 669.17

USSR

GRIDNEV, V. N., MESHKOV, YU. YA., MIKHAKOV, V. N., and OSHKADEROV, S. P., Institute of Metal Physics, Academy of Sciences UkrSSR

"The Characteristics of High-Speed Austenization of Hypoeutectoid Steels"

Kiev, Metallofizika, No 31, 1970, pp 121-126

Translation: The characteristics of the process of formation of austenite in annealed, hardened, and highly tempered carbon steels of a hypoeutectoid composition in a heating rate interval from 20 to 7000 degrees per second were studied by overall investigation methods. It is shown that the temperature conditions of austenite formation in high-speed heating depend on the initial structural state. When steel with an annealed structure is heated at a rate of more than 500 degrees per second, the transformation occurs according to a two-stage pattern, when first the pearlite and then the ferrite steel components are transformed into austenite. Bibliography: 8 entries, 3 illustrations.

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UDC 620.18:669.14

USSR

GRIDNEV, V. N., KONONENKO, V. A., LARIKOV, L. N., MISHKOV, YU. YA., RAFALOVSKIY, V. A., and YURCHENKO, YU. F., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Effect of Plastic Deformation on the Tempering Processes of a Quenched Steel"

Kiev, Metallofizika, No 39, 1972, pp 51-54

Abstract: The features taking place in the tempering of martensite by the simultaneous action of heating steel 70 to 250°C while imparting plastic deformation by drawing (almost 10%) were studied. From the obtained calorimetric and dilatometric data it follows that during this treatment, along with acceleration of the metastable phase (martensite and austenite) decomposition, being accompanied by lowering of defect density from hardening origin and weakening of the steel, another process occurs--that of martensite decomposition products as a result of plastic deformation yielding the accumulation of new defects which increase the internal energy of the system and stimulate a more complete occurrence of the phenomena of recrystallization during repeated heating. 2 figures, 7 bibliographic references.

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USSR

UDC 539.379.22

KORNYUSHIN, YU. V., and MESHKOV, YU. YA., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Defects in a Highly Deformed Steel"

Kiev, Metallofizika, No 39, 1972, pp 37-42

Abstract: A method of determining the formation of micro-cavities in highly deformed steels is proposed and proved, based on comparison of dilatometric and calorimetric measurements. In a model of plane dislocation aggregations, the relative change of volume, caused by the presence of internal stress fields, from the dislocation masses is strictly evaluated. It is shown that in the case of a highly deformed steel, the relative change of volume may be as high as 10^{-2}. Here it is shown that the deviation of the ratio of volume and thermal effects from a constant value, indicated by Seeger and Stehle, may exceed 0.1 if there are no micro-cavities in the crystal. Consequently, the deviation of the ratio of measured volume and thermal effects from a constant value is demonstrated by the appearance of micro-cavities in the sample. Actually, the measured change of volume contains both micro-cavity volume and change of volume caused by dislocation accumulations. The same measured thermal effect corresponds only to the elastic energy stored in dislocations masses in the process of deformation. Possibilities of the proposed method are illustrated by an example from experimental data. 4 figures, 17 bibliographic references.
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1/2 013 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--INFLUENCE OF VARIOUS FACTORS ON THE EFFECTIVENESS OF THE CHEMICAL ACTION OF A DISCHARGE DURING METHANE CRACKING. II. INFLUENCE OF

AUTHOR--MESHKOVA, G.I., YEREMIN, YE.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 461-3

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SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METHANE, CATALYTIC CRACKING, HYDROGEN, ETHYLENE, HELIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1143 STEP NO--UR/0076/70/044/002/0461/0463

CIRC ACCESSION NO--AP0107632

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2/2 013

CIRC ACCESSION NO--AP0107632

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF ADDN. OF H AND HE ON THE CRACKING OF CH SUB4 IN GLOW DISCHARGE IN A CONTINUOUS STREAM WERE STUDIED. EXPTL. CONDITIONS WERE: 350 MA, CH SUB4 PRESSURE 10 MM, AND H OR HE ADDED TO BRING THE TOTAL PRESSURE TO 40 AND 110 MM (DILN. 3 AND 10 TIMES, RESP.). ADDN. OF H OR HE INCREASES OVERALL EFFICIENCY OF THE CHEM. EFFECT OF DISCHARGE. AT CONVERSIONS UP TO 50PERCENT, THE TOTAL CONVERSION OF CH SUB4 INCREASES ON DILN. WITH H 2-3 TIMES. SELECTIVITY TO C SUB2 H SUB2 OVER THE INTERVALS STUDIED INCREASES WITH DILN. DILN. WITH HE HAS A GREATER EFFECT. SELECTIVITY TO C SUB2 H SUB2 ALSO INCREASES, BEING EQUAL OR HIGHER THAN WITH H. AT HIGH SP. ENERGY, THE C SUB2 H SUB2 YIELD IS PROPORTIONAL TO THE DILN. THE POSSIBLE EFFECT OF H IS RETARDATION OF C SUB2 H SUB2 DECOMPN. A. SHADAN.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--EFFECT OF THICKNESS AND THE SURROUNDING AGS MEDIUM ON THE SPECTRAL DEPENDENCE OF A PHOTOCURRENT IN RHODAMINE B LAYERS -U-

AUTHOR-(02)-MESHKOVA, G.N., VARTANYAN, A.T.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(1), 16-21

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--CHEMICAL INDICATOR, SPECTRUM ANALYSIS, ABSORPTION SPECTRUM, PHOTOEFFECT, CHEMICAL DECOMPOSITION, VACUUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0376 STEP NO--UR/0364/70/006/001/0016/0021

CIRC ACCESSION NO--AP0055161

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0055161

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MAGNITUDE AND SPECTRAL DISTRIBUTION OF PHOTOCURRENT WAS EXAMD. IN 0.01-1 MU LAYERS OF RHODAMINE B (I) DEPOSITED ON A QUARTZ BACKING, AT 10 PRIME NEGATIVES MM AND IN THE PRESENCE OF O OR NH SUB3. FOR SMALLER THAN 100 A MU LAYERS THE SPECTRAL DISTRIBUTION OF PHOTOCURRENT IN THE VACUUM WAS INDEPENDENT OF THE ILLUMINATION DIRECTION. FOR LARGER THAN 0.1 MU LAYERS, ANTICORRELATION OF THE PHOTOCURRENT AND ABSORPTION SPECTRA WAS OBSD. BOTH ON DIRECT AND REAR ILLUMINATION. UNDER THE ACTION OF O IN THE DARK, A SHARP ACCELERATION IN THE DROP OF PHOTOCURRENT TOOK PLACE. HOWEVER, REMOVING THE O LED TO COMPLETE RESTORATION OF BOTH THE MAGNITUDE AND THE RELAXATION OF THE PHOTOCURRENT. ILLUMINATION OF I LAYER IN THE PRESENCE OF O LED TO PHOTOCHEM. DEGRADATION OF I, RATHER THAN PHOTODESORPTION. THUS, THE ANTICORRELATION CANNOT BE INTERPRETED IN TERMS OF THE PRESENCE OF TRACES OF O IN THE PERIPHERAL LAYERS OF I AND ITS DESORPTION ON ILLUMINATION. NH SUB3 FORMS WITH I A NEW COMPD. TRANSPARENT WITHIN THE RANGE OF THE MAIN ABSORPTION BAND OF I. IN THIS CASE A DROP IN ABSORBANCE WAS ACCOMPANIED BY A TRANSFORMATION OF THE SPECTRUM OWING TO REDN. OF THE SO CALLED "EFFECTIVE THICKNESS" OF THE LAYER.

FACILITY: GOS. OPT. INST. IM. VAVILOVA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--ISOLATION AND PURIFICATION OF SUCCINYL COENZYME A SYNTHETASE FROM PIGEON BREAST MUSCLE -U-

AUTHOR-(02)-MESHKOVA, N.P., MATYEYEVA, L.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1413-16

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SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--COENZYME, MUSCLE TISSUE, CHEMICAL PURIFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605006/E10 STEP NO--UR/0020/70/191/006/1413/1416

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